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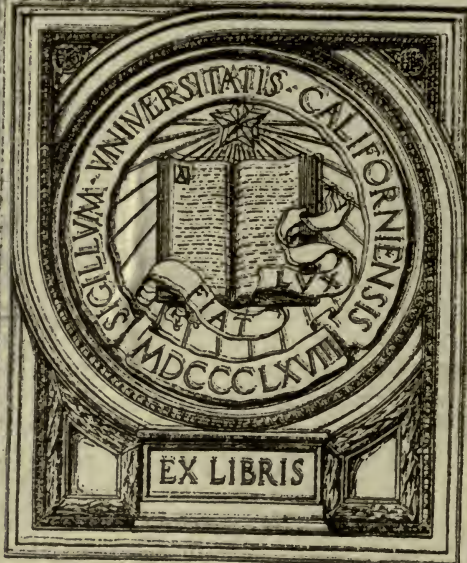
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# SOME CONTINUATION SCHOOLS OF EUROPE

By

EDWIN G. COOLEY



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EDWIN G. COOLEY

CHICAGO, ILLINOIS

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- I Organization of the Industrial Continuation Schools of Crefeld
  - II Pre-Apprenticeship Schools of London
  - III The Scottish System of Continuation Schools.

These three articles are some of the results of an investigation of industrial education in Europe undertaken for the Commercial Club of Chicago.

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## ORGANIZATION OF THE INDUSTRIAL CONTINUATION SCHOOLS OF CREFELD.

THE city of Crefeld in the Rhine Province has a population of 110,000 inhabitants. It is a prominent manufacturing center, and is well supplied with industrial schools. Besides the usual elementary and secondary schools, it has an Industrial Art School, a Royal Weaving School, a Royal Dyeing School, and a well organized system of industrial continuation schools. In the following sketch I have tried to show what Crefeld is doing to care for its boys between the ages of fourteen and eighteen, who are compelled to leave school and enter the industries. I have tried, too, to show how the good people of Crefeld, while providing industrial education for their boys, have given careful attention to their physical, social and moral education.

### AIM OF THE SCHOOL.

The industrial continuation school tries to equip young working men to meet the demands of the present economic life, as well as to furnish them general instruction during the important years—between fourteen and eighteen. The problem of these schools is difficult in that the youth must be considered first, as an individual; second, as a member of a trade; and third, as a citizen of the state. The school tries to harmonize these points of view so as to make good men, efficient workers, and good citizens.

The industrial continuation school applies the lever at the point of the boy's greatest interest, his chosen vocation, turning to use the eager expectation and joyous ardor with which at fourteen he enters into industrial life. The ever changing demands of modern life with the corresponding changes in methods of production make the master's shop the best place to learn the practical side of a trade. The industrial continuation school has, however, provided school work-shops for some of the trades, not with the idea of replacing the master's instruction, but of supplementing it logically under technical leadership, thus making it possible to turn out a better all-around workman.

At this time in a boy's life, he naturally demands the "how" and "why" of everything he sees and does. In the workshop of the master there is no time for this theoretical instruction which is absolutely necessary if the boy is to become a thoughtful worker and not a mere machine. In the master's workshop the economic struggle claims all

the powers of the worker, and demands every minute for productive work. The industrial continuation school, therefore, tries to give this information in the school workshops in immediate connection with practical work. It seeks to unite technical and economic knowledge with the practical ability *to do*.

The theoretical instruction of the industrial continuation school must provide for:

- (A) The purely technical side in:
  - 1. Industrial science.
  - 2. Technical drawing.
  - 3. Technical mathematics.
- (B) The business or economic side in:
  - 1. Bookkeeping.
  - 2. Calculations of cost of production.
  - 3. Business correspondence.

#### TECHNICAL ASPECTS OF THE WORK.

(1) Industrial Science teaches the pupil the origin, qualities, peculiarities, value, methods of preservation, and application of all materials and supplies; the construction, methods of use, manufacture and mechanical laws of working tools, implements and machinery; the aims of labor, division of labor, and the resulting demands upon the workman.

(2) Technical drawing trains the eye and hand to represent ideas graphically, and gives the power to read intelligently from drawings the plans of others.

(3) Technical mathematics does not stand detached from the other subjects of instruction, but is, in reality, a mathematical way of looking at industrial science. It applies the skill in reckoning gained in the elementary schools to the numerous problems of vocational life.

#### BUSINESS OR ECONOMIC ASPECTS.

(1) Calculations of cost of production, as presented in technical mathematics, furnish a foundation upon which a fair price can be calculated, taking into consideration materials and trimmings, wages, the general cost of running the business and a reasonable profit. The examples furnished by the study of industrial science and technical drawing deepen the student's insight in the elements to be considered in fixing a reasonable price for products.

(2) The instruction in bookkeeping is simple, but shows the boy the value of a systematic setting down of the incidents of business. Even the so-called laborer learns a practical system of keeping his household accounts which trains him to book his income and outgo, and to keep them balanced.

(3) The instruction in business correspondence teaches the pupil systematic composition, the neat setting down of business letters, petitions to authorities, documents of all sorts, and the usual filling out of business forms.



## TRAINING FOR CITIZENSHIP.

The industrial continuation schools must do more than train a mere workman. The apprentice will later be a citizen with duties and rights. If he is to perform his duties and to assert his rights, he must know them, not only in a general way, but in the spirit in which they originated. The school must, therefore, teach the young citizen the organization of the state and community, and his relations to them both as a citizen in general and as a person carrying on a trade. It will make a special effort to familiarize him with the idea that order is the only possible foundation of general welfare, and that the weal or woe of individuals or of classes is dependent upon that of the whole community; that improvements in the conditions of the individual must be brought about without burdening the whole community. It must train the pupils to submit to law and authority, and to subordinate himself in an organization for the purpose of reaching a common aim.

Training for citizenship is closely connected with training for morality and virtue. Many opportunities offer themselves to the genuine teacher of awakening the feeling of the young man for what is good and noble in his relations to others, to the family, to master and customer, to employer and inferior, to the poor and the weak, to friend and enemy. Examples and habit work effectually upon the pupil to transform the right feeling into the right deed in order that he may fulfil in himself the words of the poet:—"Let man be noble, helpful and good."

## BOARD OF DIRECTORS OF THE INDUSTRIAL CONTINUATION SCHOOL.

The Board of Directors consists of nineteen men presided over by the Assistant Burgomeister. The majority of the Board hold their positions by virtue of their connections with the city government. The others are chosen by the city council. Four are expert schoolmen; one is the Royal School Inspector, one the Director of the Industrial Arts School of Crefeld, one a teacher in the Classical School, and one the Director of the Continuation School. Five of the Board are manufacturers: one is a velvet manufacturer, one a silk manufacturer, one a silk printer and dyer, one a manufacturer of machinery and one a publisher. Seven are master mechanics: one is the head master of the Carpenter and Cabinet-maker's Guild, one the head master of the Tailor's Guild, one the head master of the Baker's Guild, one a jeweler,

and one a plumber. The Board also includes one professional architect and one merchant.

Every one of these men ought to contribute to the success of the Board. With the exception of the Assistant Lord Mayor and the four schoolmen, they are all actively interested in commerce or industry. The four schoolmen are carefully selected with the view of keeping the continuation school in close touch with the other schools of the city and state, and insuring consideration for cultural ideals in the management of the continuation schools.

Besides the director there are fourteen teachers who are employed exclusively in the continuation school, and thirty-eight who devote a part of their time to this work, while their main employment is elsewhere. Of the thirty-eight, twelve are elementary school teachers, two are technical teachers from the Royal Weaving School, and twenty-four are mechanics or engineers. Friends of the industrial schools in Germany insist very strongly that the technical part of the instruction of the apprentices must be given by men in the trades; and that the elementary teachers employed in teaching even such subjects as German and mathematics must acquire in some way practical knowledge of the trades followed by the pupils. The report for 1909 shows that during the year one elementary teacher took a three week's course in the experimental school for bakers and millers in Berlin. Another devoted some time to the study of the art of hair-dressing. Another took a three week's course of training in artistic script or lettering in the Industrial Arts School of Crefeld. Another took a course in single and double-entry bookkeeping which lasted six months. A four week's course in the pedagogical methods of industrial school work was given to mechanics and engineers during the summer vacation. Building inspectors and engineers from the various cities of the Rhine Province were called to Crefeld to take part in this conference.

During the fiscal year the receipts consisted of the following items:

Tuition .....	17,340 marks
Contributions from Guilds, Unions and Donations.....	200 marks
Other receipts.....	120 marks
Contributions from the commercial and industrial authorities....	26,000 marks
Contributions from the City Treasury.....	49,890 marks
<b>Total</b> .....	<b>93,550 marks</b>
Personal expenditures.....	87,067 marks
Expenditures for supplies.....	6,483 marks
<b>Total</b> .....	<b>93,550 marks</b>

Besides this, the city furnished the schoolrooms and bore the cost of maintenance, lighting, heating, cleaning, and fire insurance. These items amount to 12400 marks.

The regular tuition fee is six marks a year, but for voluntary outside pupils, twelve marks a year. It is paid quarterly by the parents or by the employers.

Of the 517 hours of instruction of the past year,

242 hours were given in the time from 7-1 a. m., or.....	47%
111 hours were given in the time from 2-6 a. m., or.....	21%
164 hours were given in the time from 6-8 a. m., or.....	32%

This table shows that nearly half of the work is done before one o'clock p.m., over two-thirds before six o'clock, and a little less than one-third of the work is done between six and eight p.m. The masters and teachers cooperate in arranging a study plan that will not interfere too seriously with the workshop, and that will, at the same time, make it possible for the boy to do his studying at an hour when he is physically able to accomplish something. Both masters and teachers realize that the old plan of utilizing the fag end of a boy's energies for his education in the late evening hours and on Sunday is a mistake.

#### HOURS OF INSTRUCTION IN VARIOUS TRADES.

In all trades, at least four hours of instruction per week is given, the average being six hours; two hours is given to industrial science and civics, one hour to technical mathematics, including bookkeeping and one hour to business correspondence. Besides this minimum of four hours per week, the various apprentices receive additional instruction as follows, the figures indicating hours per week:

1. *Bakers*, none.
2. *Confectioners*, first three half years, 2 of drawing; three following half years, 2 in decorative confectionery.
3. *Butchers*, in all cases, 2 of zoology.
4. *Waiters* and *cooks*, 2 of setting tables and serving.
5. *Barbers* and *hairdressers*, 2 of instruction in the practice of cutting and dressing hair.
6. *Tailors*, 3 of technical drawing and technical instruction in sewing.
7. *Shoe and leggin makers*, 4 of technical drawing and practical workshop instruction.
8. *Sadlers*, 2 of technical drawing and manufacture of models.
9. *Cushion makers* and *decorators*, 2 of technical drawing, cushion-making and decorating.



10. *Builders*, 2 of technical drawing.
11. *Gardeners*, 4 of botany, surveying, and drawing of plants.
12. *Carpenters* and *cabinet makers*, 2 of technical drawing.
13. *Wagon makers* and *wagon-smiths*, 2 of technical drawing.
14. *Horseshoers*, 2 of technical drawing, and 2 of practical instruction in horse-shoeing.
15. *Builders* and *artistic blacksmiths*, 2 of technical drawing.
16. *Sheet-iron workers* and *plumbers*, 2 of technical drawing.
17. *Machine smith workers*, 2 of technical drawing.
18. *Mechanical and electrical engineers*, 4 of technical drawing and physics.
19. *Engravers*, 3 of technical drawing.
20. *Typesetters* and *printers*, 2 of lettering and spacing.
21. *Bookbinders*, 2 of technical drawing; 2 of pasting, and preparation of marbled paper.
22. *Lithographers*, 2 of technical drawing.
23. *Dyers*, none
24. *Finishers* and *cloth printers*, none.
25. *Weavers* and *spinners*, third year, 2 of practical work in the weaving room.
26. *Designers*, 4 of technical drawing.
27. *Helpers*, none
28. *Merchant apprentices*, in all 6 of science of commerce, counting-room work, commercial arithmetic, penmanship, commercial geography, study of commercial wares and bookkeeping.
29. *Errand boys*, none.
30. *Apprentices* failing in the journeyman examination, 2 of drawing.
31. *Feeble-minded*, 2 of manual training, instruction in wood and paper work.

## SUMMARY OF ATTENDANCE ACCORDING TO PRINCIPAL GROUPS OF WORKERS.

School Year	1907-08	1908-09	1909-10
Mechanics' apprentices .....	1369	1439	1418
Apprentices in the factories .....	571	795	1018
Unskilled .....	430	520	641
<b>Total</b> .....	<b>2370</b>	<b>2754</b>	<b>3077</b>

In the school year 1908-09 and in the school year 1909-10 apprentices in the textile industry with their associated branches were required to attend the Continuation School. The youthful employees in the trades of weavers, spinners, colorers and finishers were counted in as apprentices. This explains the comparatively great increase in the number of apprentices in the factories. (See accompanying table.)

## ABSENCES IN THE INDIVIDUAL TRADES.

The absences in percentage run from 4.3% in the case of the shop-keeper's apprentices; to 9.8% with the waiters and cooks. The waiters



## GROUPING OF PUPILS ACCORDING TO THEIR PREPARATORY INSTRUCTION.

Since Easter 1909 there were newly admitted to the schools VOCATION	No.	From the higher schools	Number who had finished the elementary school course	Number who had not finished the elementary course	From schools for the feeble-minded	Pupils from other schools	
						From one or two-class village schools	From a several-class village school
Mechanics } .....	423	2	207	95	2	21	96
Apprentices }							
Apprentices in } .....	361	4	158	106	3	8	82
the factories }							
Unskilled } .....	225	.....	64	64	15	3	41
Total.....	1009	6	467	265	20	32	219

and cooks also have the highest percentage of unexcused absences, 4.7%; the wagon and carriage-makers having the lowest, .7%. The highest percentage on account of illness was charged to the engravers, 6.1%; while the lowest, .6%, was given to the gardener's apprentices. The percentage of absences was highest in the case of apprentices from small industries, absences of apprentices from the large industries usually being the fault of the boy himself. Absences of apprentices from the small industries were usually the result of stress of work in the shops. The school authorities regarded this year's showing of percentage as high and made an earnest appeal to the masters to keep their apprentices in school. It should also be mentioned that the law punishes the boy, parent, and master for unexcused absences from the continuation school.

The following classes of persons are excused attendance at the continuation school.

*First:* Those entitled to the privilege of one year's military service as volunteers.

*Second:* Pupils who attend the Industrial Day School of Crefeld for a year with a good record.

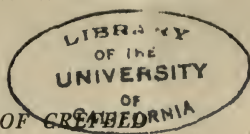
*Third:* Pupils of the commercial schools of the Chamber of Commerce.

*Fourth:* Those apprentices and workers employed in Crefeld but living outside who bring evidence, which is recognized as satisfactory by the president of the city government, that they are attending a continuation school at their home town.

*Fifth:* Pupils of special ability who may be transferred to the hand workers' and industrial arts school. This arrangement applies to pupils who are qualified for drawing of a higher character than that given in the continuation school, and who now receive their drawing instruction, as well as their workshop instruction, in the industrial arts school. Journeymen who have completed the continuation school for apprentices, but who are still compelled to attend a continuation school may substitute for this time in the hand-workers' and industrial arts school. In the summer of 1909 only thirty pupils were excused and in the winter only thirty-three.

#### RELATIONS WITH THE GUILDS AND UNIONS.

During the past school year the relations between the guilds and other unions of workers and the schools have been very friendly. At the invitation of the guilds the school was represented by the director or by technical teachers at most of the examinations of the apprentices for journeymen's certificates or at the conclusion of their apprenticeship. The shoemakers' and tailors' guilds made, as in earlier years, con-



siderable contributions to the cost of the workshop instruction of their apprentices, and have shown their lively interest in the school by frequent visits. Several guilds have provided prizes for their apprentices.

By authority of the president of the board of education and at the wish of the shoemakers' and tailors' guilds, the Easter and the Whitsun holidays were lengthened one week for the classes in this trade so that in the future they will comprise two weeks before and one week after the holiday. The time lost will be made up between Easter and autumn. On a petition of the Guild of Confectioners, the Christmas holidays were extended thru the entire month of December. The loss will be made good by an increase in the time of instruction of one hour per week in the months of January, February, and March.

Negotiations with the representatives of the business owners concerned led to the placing of the instruction of commercial apprentices upon two half days before noon, so that the instruction of these pupils now comes twice in the morning between seven and ten, instead of three times between seven and nine, a change which is as beneficial to the instruction as it is to the business.

The citizens of Crefeld are greatly interested in the physical, social, and moral education of their apprentices. All Germany, in fact, is awaking to the importance of providing instruction for the apprentices that shall aim at something more than making a good workman. In almost every city are to be found organizations of public spirited citizens who are supporting the school in its efforts to provide the physical, social, and moral training so necessary to the fourteen year old boy. Germany is beginning to treat the continuation school as if it were a separate independent institution, as much entitled to a home, to a special faculty of teachers, to places of amusement, etc., as any other school.

#### ENTERTAINMENTS.

The continuation school of Crefeld gave three public entertainments during the year. They were attended largely by members of the board of education, representatives of the industrial unions, parents of the boys, and the public generally. The following program is typical and is very much like programs of entertainments given by other sorts of schools. It was a surprise to the author, however, to find young men in the apprentice school carrying thru successfully such a program as this, furnishing the speaking, turning, music, etc., from their own number:



### CONTINUATION SCHOOLS

## PROGRAM

1. Overture to "Wallenstein's Lager".....Kerling
2. Address given by Head Teacher Rosellen.
3. "Heil dir im Siegerkranz," sung in unison.  

Sei's trüber Tag, sei's heitrer Sonnenschein,  
 1810      Wir wollen Preussen, wollen Preussen sein.      1910
4. Two Selections on Stringed Instruments. { (a) Engelmacht.....*Pierne*  
 (b) Andante religioso *Loeschorn*
5. Upon the Death of Queen Louisa (1810)....Poem by *M. von Schenkendorf*  
 Spoken by HEINRICH LAUWIG
6. To Queen Louisa .....Poem by *Theodor. Koerner*
6. Funeral March .....*Chopin*
7. "Das Lied vom Schill" .....Poem by *E. M. Arndt*  
 Spoken by PAUL KLAPPORIT
8. "The Good Comrade," sung in unison.
9. "Die Opfer zu Wesel" .....Poem by *Schmidt*  
 Spoken by ERNEST WINDOLPH
10. (a) "The Dead Soldier" ..... }  
 (b) "Kriegslied" ..... } School choir with accompaniment
11. "On to Victory," March .....*Blon*
12. "Freiheit, die ich meine," sung in unison.
13. "Aufruf" .....Poem by *Theodor Koerner*  
 Spoken by THEODOR GRUNDMANN
14. "An die Gewehre," March .....*Lenhardt*  
 Accompanied by exercises of the turning division of the Industrial  
 Continuation School.
15. "Prussian Song," sung in unison.
16. (a) "Reiterlied" .....Poem by *Fr. von Schiller*  
 (b) "Krigers Zuversicht" .....Poem by *E. M. Arndt*  
 School choir with musical accompaniment  
 (Melody: Old Prussian Army March)
17. "Prussian Tattoo" .....*Saro*  
 with closing song
18. "Deutschland, Deutschland, uber alles," sung in unison.  
 Music: City Orchestra.  
 Choir: 300 Continuation School Pupils.

Five evenings of the week are used for turning, under the leadership of a trained conductor. Both of the city halls, lying on opposite sides of the city, stand at the disposal of the pupils in order to make attendance easier. On 176 evenings, 7,050, pupils took part in these



exercises, an average of about forty pupils per evening. On three occasions, the continuation school held something like an American "field-day" where the various turning teachers had an opportunity to carry out their performances on a greater scale.

Play in the open is zealously cared for. The city play grounds are crowded on the days set aside for this school. On each one of the sixty-four Sundays and holidays of the past year, about 500 young people took part in the play. The director of games permits the boys to regulate the games so far as possible.

#### EXCURSIONS.

Excursions conducted by the teachers have not generally been satisfactory. Teachers are unable and unwilling to leave their families on Sunday and give these excursions the attention they deserve. The young people, too, love freedom, and the supervision of the teacher awakens among them a feeling of compulsion and guardianship. As the purpose of the school is to develop self-control, independence, and a feeling of responsibility, the school faculty have limited their activity to promoting the formation of excursion clubs, and giving them advice. The club chooses its own leader out of the circle of present or former pupils, the school faculty having the right of veto. Every leader of the six clubs formed up to the present time has received from the faculty a map of the neighborhood of Crefeld. The marching plan and cost of every excursion is given by the leader a few days before by means of placards on the school walls. From time to time the leaders are called in by the faculty to give a report of the last excursion. The conduct of the excursion clubs up to the present time has been satisfactory. The number of young people who have been induced to take part in these excursions has steadily increased. The lack of a grown-up conductor has had no bad results, as the leaders have insisted upon strict order. Besides the free school excursions, special excursions under the conduct of a teacher have been taken by the classes for the purpose of visiting various industrial plants.

During the school year the pupils have made zealous use of the opportunities offered for baths and swimming. The city authorities have provided a swimming tank in the city bath for the industrial continuation school pupils on Sunday mornings. For a fee of ten pf. (two cents and a half) on 48 Sundays about 4,941 continuation school boys, an average of 103 per morning, have taken a swim. The greatest

attendance (274) was on the 7th of August, and the smallest attendance (32) on the 2d of January. A special swimming teacher gives the pupils free swimming lessons. Quite a number of swimmers have secured the "free swimming certificate."

The school library is enjoyed by the industrial continuation school pupils. The manager of the library has a printed list of books which is furnished to the pupils. Books are given out on Sunday morning from 10-12, and on Wednesday evenings from 7:30-8:30. In 40 school weeks on 72 evenings, 4,757 books were loaned to 482 pupils. The library has proved not only an effective means of combatting trashy literature, but a rich source for supplementing and deepening the instruction given in the school.

#### SAMARITAN COURSE.

Twenty reliable students of the upper grade have been admitted into the Samaritan course for pupils of the industrial continuation school. The course is conducted by a special teacher who has been especially trained for this work, and who is an active member of the Crefeld Samaritan Union of the Red Cross. The purpose of this course of instruction is to promote the effective interest of the young men in first help to the injured in the workshop, in the house, and on the street. The pupils follow the theory with active interest and are dexterous in the practical exercises.

A course in stenography has been offered by an experienced teacher who has imparted instruction to seventeen pupils in correspondence stenography, and to eighteen pupils in court reporting. Some of the pupils in the beginning course were brought up to 100 syllables a minute. The rivalry of the boys was spurred on thru prizes.

The pupils of the music course number twelve, and practice one evening a week under the conduct of a concert master. At these rehearsals the pupils gain skill in the handling of their instruments free of cost. On the evenings of school entertainments the school orchestra has performed valuable service, and its excellent work has won the approval of all.

#### APPRENTICE HOME.

To keep the pupils off of the street and away from the drinking houses on Sunday afternoons and in winter when the weather prevents play in the open, and at the same time to entertain them and employ them usefully is the work of the Apprentice Home. This has existed for

four years and with every year has increased the scope of its work. During the past year six convenient rooms have been in use. The management of these rooms was in the hands of a special continuation school teacher who was helped by many public-spirited citizens.

In order to work against the inordinate desire for amusement and the wastefulness of youth, the industrial continuation school has sought to awaken a sense of economy by means of school savings banks. The treasury is supervised by school officials, and inspected by a head cashier chosen by the chairman of the school committee. Depositors are paid back their money at any time, upon request. During the last school year 35,925 marks (about \$8,982) was deposited by 509 pupils, an average of 90 marks weekly upon which 4% interest has been paid.

Pupils and their parents are often in need of friendly advice in matters connected with the training and employment of the children. This is provided them at the consultation office, which is under the management of the director of the Continuation School. The office is in great demand by pupils, parents, and masters.

These various organizations have bound the pupils of the school together in a strong bond of friendship. The influence of the school and its teachers upon the pupils is strengthened in this way. The pupils feel that the school is their friend, interested in their education and welfare. The boy is treated as a whole boy, and not merely as a machine for turning off work. He is not merely trained for life, but actually lives while he is in the school.

Many contributions were made to the apparatus and books of the school in the course of the school year by the Prussian Ministry of Commerce and Industry, many owners of industrial plants, teachers, mechanics and former pupils of the school.

Legacies and Bequests in which the Industrial Continuation School has an interest, include the following:

1. Friederich Wilhelm bequest for granting of scholarships to pupils of such schools as aim at the study of industrial subjects; approved by order of the Ministry on the 9th of October, 1902. Amount of capital, 12,198 marks.

2. Legacy of the deceased Assistant Councillor, Ludwig Friederich Senffardt, for the support of the elementary and continuation schools; approved by the order of the Ministry on the 24th of November, 1901. Amount of capital, 155,885 marks.



3. Legacy from Heinrich Dediger for the support of pupils in the continuation school; approved by the order of the Ministry on the 18th of January, 1904. Amount of capital, 2,255 marks.

4. The funds for scholarships in the industrial schools (granted by the painters' guild) for the purpose of supplying apparatus to needy scholars. Amount of capital, 568 marks.

#### INDUSTRIAL DAY SCHOOL.

The industrial day school is a preparatory school for handwork and technic, and provides a partial substitute for the industrial continuation school. It takes the pupils immediately upon leaving the elementary school, and gives them a year's preparation for their trade.

The industrial day school in one year with 38 hours of instruction per week reaches the goal which the continuation school reaches in three years. While the continuation school pupils in three years with six hours per week for forty weeks, receive 720 hours of instruction, the day school pupils in one year receive 1,520 hours of instruction, more than twice the amount of the entire continuation school instruction.

Attendance at the industrial day school is especially to be recommended to those who have chosen a technical or industrial arts vocation in which a thoro preparation in drawing is necessary.

According to Paragraph 3 in the local ordinances concerning the industrial continuation school, those pupils who have done good work in the industrial day school for a year are excused from attendance at the industrial continuation school. After the year, they enter practical life, but they may prepare themselves further by voluntary attendance at the handworkers' and industrial arts school. They can be accepted as all-day pupils in the above named institutions, and receive their practical education in the workshops there.

One of the advantages of the industrial day school is that here many pupils are prevented from making an unsatisfactory choice of a trade. Here it will be often shown that they do not possess the bodily and mental strength necessary for *certain* trades, while they may be admirably fitted for another trade. In many cases it will be possible to get hold of the pupils early enough to protect them from the disappointment that results from a mistaken choice of trade.

Pupils are admitted into the industrial day school regularly at Easter, and in exceptional cases, in autumn. Only such pupils will be accepted as have finished the elementary school, and can show in all



subjects taught there a satisfactory knowledge. Applications can be made at the consultation office of the industrial continuation school.

The tuition amounts to 60 marks per year, and is paid in half-yearly installments of thirty marks (about seven dollars and a half). For needy, ambitious scholars this may be entirely or partially omitted at the discretion of the Director.

The industrial day school is managed by a Board of Education, and is under the special direction of the Director of the industrial continuation school.

## COURSE OF STUDY.

SUBJECTS	NUMBER OF HOURS	
	Class A	Class B
	Technical Course	Course for Decorative Trades
1. Religion and moral teaching .....	2	2
2. Industry and science .....	2	2
3. Industrial composition and correspondence .....	2	2
4. Industrial bookkeeping .....	1	1
5. Study of materials .....	2	2
6. Industrial arithmetic .....	3	5
7. Algebra .....	3	0
8. Geometry .....	4	4
9. Natural history .....	2	2
10. Linear and perspective drawing .....	8	4
11. Technical and special drawing .....		
12. Ornamental special drawing .....	3	8
13. Perspective drawing after models and patterns....	3	3
14. Workshop instruction .....	3	3
Total .....	38	38

With the beginning of the year 1910, workshop instruction is to be introduced as an experiment. It will be a counterbalance to the purely theoretical training by providing a body of observation and experience. It should heighten the respect for manual work and should increase the joy of work.

In conclusion I would say that the aim, organization, and spirit of the continuation school of Crefeld would meet with approval in a far more democratic country than Germany. This school really aims at the development of the individual and citizen as well as of the producer. The course of study appears simple, practical and not crowded with fads. The boy is considered as a probable manager of a small business, and the course provides both business and technical training.

The Board of Education is, on paper at least, ideal in that it includes officials, employers, workmen and representative schoolmen. Managers of big business organizations devote the necessary time to the supervision of the continuation school. Representatives of the various trades are given an equal share. The merchant and architect stand for the business and professional world. The educators on the Board are men actively engaged in various phases of school work. The sole purpose of this Board is the care of the continuation schools of Crefeld.

In Crefeld, as elsewhere in Germany, you find both elementary teachers and men from the trades employed as teachers in the industrial schools. The number of teachers whose time is fully taken up with work in the continuation school is on the increase in Germany. Writers on the subject believe that the majority of the teachers in such schools should be employed for full time and should make the work in the continuation school their main occupation, thus giving the continuation school system a more independent character.

The proportion of the elementary teachers employed in Crefeld is smaller than in most German cities. Those employed in the continuation schools are given some practical training in the shop, while on the other hand, men from the trades are required to acquaint themselves with ordinary teaching practice. Considerable prejudice exists in Germany against the ordinary school teacher as a continuation school teacher. The elementary teachers are inclined to rely too much upon theory and device, and often seem to believe that by such means they can do without practical knowledge of the trades. The best schoolmen, however, believe that even to teach the mother-tongue, civics, and mathematics of the continuation school more practical knowledge is required. The subjects are not taught as mere subjects but as applied to a definite aim, some trade.

The systematic and thoroughgoing consideration of the boy's welfare as a boy, that cares for his general culture and amusements as well as for his shop training, will be a surprise to many who have been reading about industrial schools. Even in our American cities it will be hard to match the showing made by Crefeld in this respect. By means of these welfare organizations the Crefeld schools have developed among the boys a sense of loyalty that brings them back at times of reunions and festivals, that leads to gifts and work for the school by former pupils. The increasing use made of the consultation office by parents and pupils shows the confidence of the people in the Crefeld organization.

The full-day industrial school is a comparatively new feature in the German school system. I saw a similar school in Dresden, and there are one or two others in Germany. It serves a very useful purpose in preventing disappointments on the part of young people due to the selection of a wrong vocation. It enables gifted boys to enter the industrial arts school without loss of time, and to develop their special talent to the great advantage of themselves and the community. Many schoolmen, while approving of such pre-apprentice schools, regard it as a mistake to exempt their students from continuation school work during their apprenticeship. The resulting separation between practical work and the school is a disadvantage. Then, too, the work will be better done by the boy if carried on during the three years of growth (14 and 18), than it can be if crowded into a single year. The value of the continuation school in forming proper intellectual and moral habits is a most important consideration. Such intellectual and moral habits can be best secured by systematic, long-continued training and influence during these critical years of adolescence.



## PRE-APPRENTICESHIP SCHOOLS OF LONDON.

**M**R. Robert Blair, Education Officer of the London County Council, in an address to the Imperial Educational Conference held in London in the summer of 1911, made the following statement of the need of vocational training for the English youth.

Of the total industrial population of England and Wales employed in factories and workshops London holds one-seventh. London engages one-quarter of all the clerks in England and Wales. Besides this vast industrial and commercial system, there are in London enormous services of a more or less unskilled character. One-quarter of all the men and boys over fourteen years of age are engaged in unskilled employments. About one-third of the children leaving the elementary schools enter a form of occupation which can by any stretch of imagination be called skilled. The remainder drift into unskilled occupations where, for the most part, they learn little that is useful, and where the mental and moral effects of their school training are too soon dissipated. Seventy per cent. of the London dock laborers have been born in London; the skilled trades are largely recruited by immigrants; newcomers from home and abroad constituting one-third of the London population. The system of indentured apprenticeship has largely disappeared. An exhaustive inquiry made for the County Council in 1906 showed that it would appear to be only a waste of time and money to attempt to revive an obsolete system.

In consequence of extensive competition and of extensive subdivision of labor, opportunities for an all-round training can scarcely be said to exist in the London workshops. In one direction the skill developed is extreme, but the training is either one-sided or no training at all; and a change in the circumstance of a trade generally means a new venture in life for many of its workers.

London is not the only city of which these things are true. They exist in Liverpool, in Birmingham, in Leeds and so on; but because of its great size, and the almost infinite variety of its activities, these things exist in a more intense degree in London; the struggle is greater, success is greater for the more adaptable; failure involves greater disaster. In London, therefore, with the endless possibilities of dislocation of occupations and with its enormous services of an unskilled character, the first essential quality for the worker is character to keep his head up under changing circumstances; and the second (perhaps the same as the first), is a genius in adaptability. Character and adaptability are the aim of the whole educational system. But in addition to all the general efforts in this direction, something of a specific character can be done, and is being done, for those pursuing or intending to pursue an industrial career. The curriculum of the Central Schools has an industrial or commercial bias. The evening schools make some provision for those wholly occupied in the daytime. For those who can secure a half-day or two half-days per week of "time off" from their daily employment, "part-time" classes are provided. For those who

have not yet entered upon an industrial career, but who are prepared to give an undertaking to enter specific skilled occupations at or about 16 years of age, the trade schools have been established.

#### CHIEF PRODUCTIVE INDUSTRIES OF LONDON.

Some statistics founded on the census of 1901 throw light on the situation. In 1901, there were 1,098,106 men in twenty-five groups of occupations; 391,411 under twenty years of age, of whom 92,944 attended evening classes. There were 1,422,423 women in 28 occupations; 420,475 under twenty years of age, of whom only 68,920 attended evening classes. In 1906, London had 740,256 children in the elementary schools.

The industrial and technical classes supplementing these evening classes are made up of children taken from the elementary schools during the last years of the school course, no child being admitted to the trade schools under thirteen years of age. Attempts were made to base the organization of these schools upon the productive industries of London. According to the census of 1901, the numbers in these industries were as follows:

*Dress*, 220,000: tailors, milliners, dressmakers, shoemakers.

*Building*, 143,000: carpenters, joiners, bricklayers, painters, decorators, glaziers, plumbers.

*Printing*, 96,000: printing, lithographers, bookbinders.

*Engineering and Machine-Making*, 94,000: blacksmiths, fitters, etc., metal trades, shipbuilding.

*Furniture*, 62,000: cabinet-makers, and french polishers, upholsterers.

*Precious Metals, Watchmaking and Instruments*, 39,000: gold and silver smiths, jewelers and watchmaking, electrical apparatus making.

*Skin and Leather, Hair and Feather*, 27,000: leatherworkers, saddlers and harness-makers, hair and feather workers.

*Chemical*, 20,000.

*Textile*, 15,000.

*Food, Tobacco, Drink and Lodgings*, 188,000.

The first type of vocational schools mentioned by Mr. Blair is the

#### CENTRAL SCHOOL.

Besides the ordinary elementary schools, the London County Council has recently organized a certain number of Central Schools providing general instruction, but with a commercial or industrial bias. These schools are organized with a view of providing for boys and girls who can remain in school until over fifteen. The city of London has been divided into sixty districts; and it is expected that each district will

be provided with such schools. Pupils are taken from the ordinary schools between the ages of eleven and twelve, and are chosen partly on the results of the competition for Junior County Scholarships and partly on the results of interviews with head teachers and managers. Some of the pupils above the age of fourteen receive financial assistance from the County Council.

These schools are modifications of the older Higher Elementary Schools, and are distinguished from the ordinary elementary school by the fact that the pupils are selected and go thru a complete four years' course with a special curriculum. They are unlike the older secondary schools with a commercial bias in the fact that they provide free education, and have a curriculum framed with a view to enabling pupils of 15½ years of age to earn a better living. It is claimed that the training secured in these schools prepares for apprenticeship at sixteen, but, in view of Mr. Blair's statement about the decline of apprenticeship, this consideration is not very important. Whether such schools will be of more practical value than the ordinary elementary and secondary schools is uncertain. They seem likely to be dominated by the same ideals; to be managed in the same general way; and taught mainly by teachers with only the usual academic training.

Up to the present time, 39 such schools have been organized; 13 with an industrial bias, 13 with a commercial bias, and 13 with both an industrial and commercial bias.

#### EVENING SCHOOLS.

Coming more directly to the subject of vocational training given to workmen in England, we find that they mainly obtain their technical education, so far as schools are concerned, first, in evening classes; second, in technical day classes.

In the words of Mr. Blair—"No one can understand the system of technical education in England who has not fully grasped the meaning of the evening school work. In these evening schools are to be found those students who have felt most the need of education; those who are prepared to make the greatest sacrifices for it, and consequently those who gain benefit from it. The efficiency of the system is, however, limited by the exhaustion of the long day's toil before the evening school begins." (Italics mine.)

These evening schools are of three kinds:—*free schools, ordinary evening schools, and commercial and science and art centers.* In the free schools, instruction is provided in the usual academic subjects of



reading, writing and arithmetic, English, history and geography; as well as in a long list of subjects including vocal music, gymnastics and physical drill, swimming, first aid, home nursing, cooking, laundry work, millinery, dressmaking and needle work. In some of the schools an industrial course in technical drawing and workshop arithmetic is taken preparatory to the industrial course at the technical institutions. Instruction is also given in woodwork, wood carving and metalwork.

In the "ordinary evening schools" practically the same subjects are taught, but the work is of a more advanced character. In addition, elementary instruction is given in commercial subjects such as book-keeping, shorthand, typewriting and office routine. Students are also prepared for the examinations for the minor appointments in the civil service. Classes are held in many schools for courses in English literature and foreign languages.

The commercial centers provide courses covering two or three years, consisting of two or three subjects so arranged as to provide a progressive course of study. Students under eighteen years of age are admitted to the centers only on the condition that as a rule they join a course and guarantee to attend regularly for at least three evenings a week. In addition to the more advanced work in the commercial subjects taken in the ordinary schools, such subjects as accounting, banking, commercial law, etc., are taken.

Science and art centers provide elementary and intermediate instruction in science and art subjects leading up to the advanced work in the technical institutions and schools of art and the polytechnics. The free and ordinary schools are open usually on three evenings a week between the hours of 7:30 and 9:30; the centers on four evenings a week for about two and a half hours an evening. The total number of evening schools is 274. Students pay a fee of one shilling a session in the ordinary schools; two shillings six pence in the commercial centers; and five shillings a session in the science and art schools.

#### PART TIME SCHOOLS.

The evening and Saturday afternoon schools are, of course, the most important industrial schools of England. The English apprentice usually works 54 hours a week, and is supposed to be free during the remaining time to carry on school work. Still he finds it difficult to meet the demands of both his school and shop, and the tendency of the present day is very strong for part-time work for apprentices and other

persons who are unable to give up full time to the schools. The part-time school is, of course, only a modification of the evening classes, differing only in this respect;—that the training is given in the day time or in the early evening instead of the late evening; employers allowing their young work people time off without deduction of pay during a portion of the day to attend classes which will improve their work. Many employers are beginning to do this, some permitting their apprentices to attend classes in the morning. The feeling is becoming quite general in England that it is expecting too much of a boy to require him to work nine or ten hours during the day and get his school training at night. In this they are following, at a distance, the lead of the German continuation school.

#### TECHNICAL DAY SCHOOLS.

Technical day schools include: (a) trade preparatory schools intended to cover the period between leaving the elementary school and the age of apprenticeship (16); and (b) trade schools proper which attempt to replace apprenticeship. The number of the trade schools for boys, however, is limited to a few groups of boys' trades such as silversmithing, tailoring, cooking and bakery. The membership in some of these boys' trade schools is confined to sons of the masters, and they may be neglected in any general description of the scheme of vocational education. The women's trade schools which attempt to prepare girls for work as "improvers" teach the following trades: dressmaking, retail and wholesale ladies' tailoring, waistcoat making, millinery, corset making, upholstery, laundry work, cooking, embroidering, and photography. The girls' trade schools, which attempt to replace apprenticeship, seem to be very popular. Their courses are short (two years), and appear to me to be lacking in cultural and artistic elements. Statements have been made by persons connected with these schools that the girls receive enough training to enable them to get other women's positions by underbidding them, but not training enough to prevent their being overtaken by the same fate later on. Many competent critics believe that girls would be better served by good artistic training in the schools and practical training in the master's shop.

The trade preparatory school, however, has no thought of serving as a substitute for apprenticeship, but aims to prepare for apprenticeship or for further instruction in the technical institutions. They undertake to give instruction in the principles common to a group of handicrafts, giving that power of adaptation which may be needed on account

of changes in the industrial conditions and methods of production. Many believe that ignorance of these fundamental principles is an important factor in increasing the number of unemployed when changes in the industries occur. The training of the engineer may lead to the making of guns and motors; the well trained carpenter can easily learn to make cabinets, ladders, picture-frames, and cricket bats; in the work of the carpenter and fitter the foundation is broad enough to lead into the profession of the architect and engineer. The work in all these schools should result in the recognition of the dignity of labor, and the perception that the work of a skilled artisan is as worthy as that of a clerk and much more stimulating to the intellect.

The curriculum of the trade preparatory schools is usually three years in length; the pupils being permitted to leave the elementary school and enter the trade preparatory school at about thirteen. The studies and time given to them differ in different cases, and has been stated by Mr. Blair as about eight hours a week in English, eight or ten hours in mathematics and science, eight or ten hours in drawing and manual work during the first year. In some schools, however, fully half the time is given to drawing and manual work. During the first and second years the curriculum is more general and is suitable as a general preparation for a number of trades. In later years, the pupils are permitted to specialize according to their particular career.

The classes are usually held in buildings of technical schools, whose main purpose is evening work. There is a decided advantage of this bringing together of the day and evening work, as it will lead, in some cases, to the pupils shifting to day work for full time in place of a few hours of evening work; and in other cases will lead a boy who has been compelled to leave the day classes to continue work in the evening after entering upon a trade. This correlation between day and evening classes is very important, especially now when the number in the day classes is very small. According to the census of 1909-1910, there were only 700 boys in the day classes of technical schools and 620 girls. The boys and girls in these schools are required to pay tuition, but the statistics of the year I have just quoted show that only 224 boys and 195 girls paid tuition fees.

Mr. Blair enumerates ten day technical schools for boys, eight maintained by the County Council and two aided by it; and four day trade schools for girls maintained by the Council and two aided by it. The courses in these schools vary slightly in the proportionate amount of workshop instruction to academic subjects. A somewhat detailed sketch



of the work done in the school of building at Brixton will, perhaps, be the best means of presenting a picture of the work of this group of industrial schools.

#### SCHOOL OF BUILDING AT BRIXTON.

The prospectus of this school states that "a day school for boys has been established at this institution with the object of providing a sound scientific and technical training for boys preparing to enter the building trades and allied vocations." It is not suggested that this training should replace the apprenticeship system, but the institution should give instruction which it is almost impossible for the boy to get anywhere else. The whole of the training is preliminary, and should be continued in evening schools in the Council's institutes or polytechnics, after the pupil enters upon his life work.

The course is for three years, and is confined to boys between thirteen and fifteen who have passed the sixth standard of the elementary school, or its equivalent. The curriculum which is common to all students during the first years, includes:

- 8 hours per week workshop practice;
- 6 hours per week technical and drawing office instruction;
- 4 hours per week elementary science;
- 10 hours per week English, mathematics, and art applied to building;
- 2 hours per week physical instruction.

At the end of the first year the principal advises the parents of the boy attending the school as to the most suitable trade to select for their boy; this recommendation is based upon any special aptitude shown during the first year, upon reports from the master, the character of the boy, and the position of the parents.

In the second and third years the courses are divided into two main sections: (a) the artisan course for bricklayers, carpenters, masons, plumbers, painters, etc.; (b) the higher course for architects, builders, and surveyors. During these two years the instruction in building construction for all students is of a more advanced character, and the general elementary science with referenc<sup>e</sup> to building materials and mechanics of building is more directly applied. Students taking the artisan course specialize in the trade which they intend to follow. The pupils in the higher course receive weekly instruction in the various trades in rotation; builders' quantities, architectural drawing and land surveying are added to the curriculum.

In the second year:

- 6 hours per week is given to technical and drawing office work;
- 10 hours per week are devoted to the specialized instruction;
- 4 hours per week to elementary science;
- 8 hours per week to English, mathematics, and art applied to building;
- 2 hours per week to physical instruction.

In the third year:

- 15 hours per week are devoted to the specialized instruction;
- 5 hours per week to technical and drawing office work;
- 4 hours per week to science;
- 4 hours per week to English, mathematics, and art applied to building;
- 2 hours per week to physical instruction.

Towards the end of the third year, as opportunities arise, the boys are placed. The principal is of opinion that it is undesirable to insist upon the completion of the three years, as it would be extremely difficult to place, or assist in placing, groups of fifty boys leaving simultaneously.

Workshops are provided and equipped for the practical teaching of several building trades under conditions similar to those met with in the builders' shops. The school of architecture gives instruction in the history of buildings, and for the study of architectural design and planning, together with the preparation of architectural drawings. Lecture, classrooms, drawing offices and laboratories have been arranged in connection with the workshop, so that the practical work of the school may be combined with class study in building construction, drawing, architecture, and the chemistry and physics of materials. Every facility is given for fullsize work, and various trades act in conjunction for this purpose. A portion of the large hall of the school is devoted to this work. Great importance is attached to the practical combination of the studies in the several trades and branches as required by a master-builder, foreman, or architect; and an architectural director of the school has been appointed for this purpose. Facilities are, therefore, given for combining architectural studies in drawing and theoretical work in the workshop, lecture room, and drawing office. Courses of special lectures, open to all students, are held each season upon architectural and scientific subjects in connection with the work of the schools.

## EVENING CLASSES.

In the practical trade schools of this institution, admission is given only to those engaged in the trades. These classes are intended to supplement workshop classes, and not to teach trades. Students in these classes are expected to attend the lectures and drawing office work in connection therewith, and those who fail to do so are not allowed to continue the workshop practice. Classes are held in the evening, two or three times a week, from 7:30 to 9:30. The work of the school is divided into three departments, as follows: First, *trade classes*, including brick work, carpentry and joinery, staircasing and hand railings, masonry, pipe work, sanitary engineering, stone carving, wood carving, modeling, wrought iron work. Second, *building instruction in allied subjects*; builders' bookkeeping, estimating, office routine, construction, mechanics of building, constructional steel work, building or quantity surveying, chemistry and physics of building materials, geometry, land surveying and valuation, workshop arithmetic, practical mechanics. Third, *architecture and drawing*; architectural design, working details and perspective drawing, architectural history, freehand and model drawing, lettering and inscriptions for drawings, sketching and measuring buildings and details. These courses are held at the Victoria and Albert Museums at South Kensington.

Other vocational schools for boys follow the same general plan as the Builders' school. Some do more shopwork; some less; some pay more attention to the industrial arts; some less. Altogether they are a mere handful compared to the masses attending the evening classes (126,000) and the larger masses getting no vocational instruction. All of them try to use the period from about twelve to sixteen years for the pre-apprentice training.

## VOCATIONAL AND GENERAL EDUCATION.

For the young man who can work all day and study nights, England makes ample provision. What strikes the observer who has seen the day work provided in Germany is the excessive demand made by the English system upon the physical endurance and will power of the rising generation. My observation leads me to believe that the demand is too great, and is sapping the vitality of the English youth.

In my opinion the Germans are wiser in preserving the elementary school up to fourteen, the beginning of adolescence, for general culture,



*including hand training*, and then compelling supplementary vocational training in the day time up to the age of eighteen for those obliged to go to work. I believe no boy should be compelled or permitted to choose his vocation before the age of fourteen, and further, that no one can do it for him intelligently before that time. I believe the boy's general welfare demands no shortening of the period of infancy or childhood, no premature entering into the ranks of the breadwinners. Let vocational training wait until childhood ripens and youth begins.

## THE SCOTTISH SYSTEM OF CONTINUATION SCHOOLS.

**I**N the article on the Crefeld Schools, published in the November number of VOCATIONAL EDUCATION it was pointed out that the continuation school is a supplement to the apprenticeship system of Germany. The master's shop is the basis and center of the industrial education of the apprentice, the school being called in to supplement it—especially on the theoretical side. (The existence of a strong, well-organized system for training the youth thru apprenticeship is an advantage the German has over the English, Scotch or American; an advantage which makes it comparatively easy for him to deal with the problem of the vocational training of the youth.

In the article in the January number, an attempt was made to show the English method of dealing with the problem; a method that seemed to the writer to be worthy of careful study, but far less effective than the one employed in Germany. Part of the difficulty in England is due to the lack of a well-organized system of apprenticeship and part of it to the lack of faith on the part of the ordinary Englishman in schools as instrumentalities for promoting efficiency. The Englishman, too, has neglected to give adequate consideration to the inability of the ordinary youth of fourteen to bear up under the two-fold strain of shopwork in the day time and school work in the evening. Up to the present time, English authorities have not required by law attendance at continuation schools on the part of youth who have left the elementary school at fourteen and gone to work. At present many things indicate a desire to change this situation, and to provide for both compulsory attendance in industrial schools, and to arrange for at least a part of the work in the day time. The Scotch have already taken one decided step in this direction.

Conditions in Great Britain resemble those in America. A sketch of the situation, as it presents itself in Scotland, seems likely to be especially instructive and helpful to Americans who are considering the question of industrial education for the youth.

The Scotch have already secured legislation which must be noted by everyone studying their industrial schools. The following are the sub-sections:

## COMPULSORY ATTENDANCE ACT.

(1) Without prejudice to any other power of a school board to provide instruction in continuation classes, it shall be the duty of a school board to make suitable provision of continuation classes for the further instruction of young persons above the age of fourteen years with reference to the crafts and industries practiced in the district (including agriculture if so practiced and the domestic arts), or to such other crafts and industries as the school board, with the consent of the Department, may select, and also for their instruction in the English language and literature, and in Gaelic-speaking districts, if the school board so resolve, in the Gaelic language and literature. It shall also be their duty to make provision for their instruction in the laws of health and to afford opportunity for suitable physical training.

(2) If it shall be represented to the Department on the petition of not less than ten ratepayers of the district that a school board are persistently failing in their duty under the foregoing subsection, the Department shall cause inquiry to be made and call upon the board to institute such continuation classes as appear to the Department to be expedient, and, failing compliance, may withhold or reduce any of the grants in use to be made to the board.

(3) It shall be lawful for a school board from time to time to make, vary, and revoke byelaws for requiring the attendance at continuation classes, until such age, not exceeding seventeen years, as may be specified in the byelaws, of young persons above the age of fourteen years within their district who are not otherwise receiving a suitable education or are not specially exempted by the school board from the operation of the byelaws, and that at such times and for such periods as may in such byelaws be specified. Such byelaws may also require all persons within the district having in regular employment any young person to whom such byelaws apply, to notify the same to the board at times specified in the byelaws, with particulars as to the hours during which the young person is employed by them:

Provided that no young person shall be required to attend a continuation class held beyond two miles measured along the nearest road from the residence of such young person.

(4) This subsection provides for the application of the Public Health Act of Scotland.

(5) If any person fails to notify the school board in terms of any such byelaws in regard to young persons employed by him, or knowingly employs a young person at any time when his attendance is by any such byelaw required at a continuation class, or for a number of hours which, when added to the time required under any such byelaw to be spent at a continuation class, causes the hours of employment and the time so spent, taken together, to exceed in any day or week, as the case may be, the period of employment permitted for such young person by any Act of Parliament, he shall be liable on summary conviction to a penalty not exceeding twenty shillings, or in case of a second or subsequent offence, whether relating to the same or another young person, not exceeding five pounds.



(6) If any parent of a young person by wilful default, or by habitually neglecting to exercise due care, has conduced to the commission of an offence under the immediately preceding subsection or otherwise, thru failure on the part of the young person to attend a continuation class as required in any such byelaw, he shall be liable on summary conviction to the like penalties as aforesaid.

Sub-section 1, of the Scottish Education Act referred to, provides that it shall be the duty of school boards to make suitable provision in continuation classes for the further instruction of young persons above the age of fourteen years with reference to the crafts and industries practiced in the district. It will be noticed that this includes agriculture and domestic arts; and that the Act further provides for instruction in languages and literature, together with the laws of health and physical training. The work here is left to the local boards of education, and not referred to special boards created for the management of these schools, as is usually the case in Germany, and as is provided by the laws of Wisconsin. Germany's experience has seemed to indicate that the coupling up of the management of these two types of schools has not usually been successful.

Sub-section 2 provides for a method of compelling boards of education to do their duty in providing such continuation classes; and provides for penalizing them by reduction of their grants in case of disobedience. This provision seemed necessary on account of the hide-bound conservatism of some educational boards who will neglect the new and unorganized form of education for the old and established one. Germany has found it best to entrust the new form of education, at least in the beginning, to separate organizations of men interested in the new movement.

Sub-section 3 permits local school boards to compel attendance of youth at the continuation classes up to, and not exceeding, seventeen years of age, unless already in attendance at another school, or specially exempted by the school board from the operation of the byelaw. This sub-section contains a further very important provision: that all persons having in their employment any young person to whom any such byelaw applies must notify the school board at certain specified times, stating particulars as to hours during which the young persons are employed by them. Some such provision is absolutely necessary for the successful working of the law.

Sub-section 5 compels employers to provide time for the attendance of young persons in their employment at the continuation school; and

further provides that the hours spent in continuation classes are to be counted in computing the hours of employment of such young persons. This will prevent the practice of employing people a full number of hours in the shop, and then requiring them to do their school work in the evening. It will lead, in many cases, to employers granting time during the day for such continuation classes, as employers who cannot keep the boy at work will be willing that his school instruction shall be carried on at such times as are best calculated to render him more efficient. This provision is very important, and under intelligent supervision will lead to a gradual transfer of a large part of the evening continuation class work to day classes, where it will be possible to do genuine educational work.

Sub-section 6 compels parents to assist school officials in carrying out this Act. Taken with the provision relating to employers, it will make it possible for any community so desiring to establish a genuine system of continuation classes providing for regular attendance at such hours and place as will make possible thoro and efficient work.

Taken together, the provisions of the Scottish Act seem to provide for taking a long step in the direction of proper vocational instruction for youth. Altho it does not provide for general compulsory attendance, it enables communities, desiring it, to have it. While it does not provide for day instruction, the general tendency of the act will be to promote this most important phase of the work. The Act places Scotland a long way in the advance of England, altho it seems probable that Parliament will soon enact a similar law for England.

Steps have already been taken in some school districts in Scotland to provide for compulsory continuation classes. The matter is being discussed in both of Scotland's greatest cities—Glasgow and Edinburgh. Both of these cities have vocational schools, but have not yet taken full advantage of the provision of the Scottish Education Act with reference to compulsory attendance. Rivalry between these cities is intense; and one or the other will soon get into line with the provisions of this Act.

#### RESPONSIBILITIES OF SCHOOL BOARDS.

Sir John Struthers, Secretary of the Scotch Education Department, in his report for the year 1910-11 discusses the purposes of the Law, and the responsibilities of School Boards in carrying it out. His statement

is very important, and I shall give a large part of it. I have seen nowhere else so clear and thoro a statement of the case for the continuation school.

Up to recently, it has been no part of the duties of the school board under the statutes (or, indeed, of any other public body) to take cognizance of the period of adolescence; to reinforce parental authority at the time when it is most needed, but is, in point of fact, weakening from natural causes; to guide and advise young persons as to choice of occupation, or even to put before them much needed information on the subject; to ascertain what further systematic instruction is needed to enhance the efficiency of all persons in their several occupations, and to make them more useful citizens; or to see that suitable means of further education with these practical ends in view are actually provided. It is broadly true that school boards, as such, have hitherto stood in no sort of relation to young persons over fourteen years of age, or had any responsibility for providing for educational needs of adolescents.

It is becoming increasingly clear that a national system of education founded on such principles can be at best but a qualified success; that is the experience of other countries as well as of our own, and everywhere the progressive nations of the world are bestirring themselves to make the proper instruction, control and discipline of adolescents a matter of State concern.

Besides laying a definite responsibility upon school boards for the further education of adolescents, the Legislature has indicated generally, but without prejudice to the provision of other forms of instruction, certain lines which that further education should follow, viz:—

1. The maintenance and improvement of the health and physique of the young people;
2. The broadening and refining of their interests and sympathies by the influence of good literature;
3. The equipping them with a competent knowledge of some craft, industry or occupation which offers a reasonable chance of providing a means of livelihood in adult years.

To this may be added a system of training adolescents in the responsibilities and duties of communal life, as well as of its rights and privileges.

The foundation of all continuation class instruction should be laid in the Supplementary Courses of the day school, and it is to the proper organization of this part of the work of the day school that the attention of boards should, in the first place, be directed. Some course of the kind should be placed within the reach of every day school pupil between 12 and 14. Much greater pains should be taken to adapt the instruction to the probable future occupations of the pupils, and a vigorous effort be made to ensure that a much smaller proportion of the pupils leave the day school without something approaching to two years' experience of Supplementary Course work.



In the more populous districts of Scotland, it has been found more convenient to provide the equivalent of Supplementary Courses of instruction, for pupils who have left school without it, in classes distinct from those of the day school. Hitherto, such classes have been held in the evenings, and it may be difficult owing to industrial conditions to make any great change in that respect. But the disadvantages attached to evening class instruction, following upon full time occupation during the day, are undoubtedly very grave; so grave, indeed, in some cases as to make it doubtful whether they do not outweigh the advantages. Public opinion among employers should favor attendance at suitable evening classes as a part of that instruction in a trade or industry which an employer is supposed to provide for his employees in those trades in which there is a regular system of apprenticeship, and, therefore, as nominally falling within the regular hours of employment. It is even more important that a sense of responsibility for the future of young persons in their employment should be created among employers in those industries in which there is no semblance of an apprenticeship, and in which the labor of adolescence is too often in no sense whatever a preparation for earning an independent livelihood. School boards in industrial districts have no more pressing task before them than the fostering by all means in their power of a movement for the better use of the years of adolescence as a preparation for adult life. They must associate with themselves representatives of employers and employed, and must join hands with every agency having for its object the industrial efficiency and social well-being of the community. They must also have regard to the exigencies of particular employments, and adapt their classes thereto both as regards the times at which they are held and the nature of the instruction given therein.

To recapitulate, it is suggested that as a discharge in some measure of the duties laid upon them by the recent Act:

I. School boards should, according to their opportunities, see to the establishment in their day schools of efficient Supplementary Courses with in all cases satisfactory provision of practical work for both boys and girls as indicated in Schedule VI. of the Code.

II. When the provision of properly qualified teachers of certain subjects of the Supplementary Course is beyond their resources, they should invoke the help of the Secondary Education Committee, who may provide such teachers for groups of schools, and also aid in the supply of any necessary equipment.

III. The work of the primary school should be so ordered as to secure to pupils of average ability and diligence from one and one-half to two years of Supplementary Course instruction before leaving the Day School.

IV. Arrangements should be made whereby pupils who have not received this minimum of instruction should obtain it either by further

attendance at the day school at certain seasons of the year (rural districts), or by attendance at classes specially provided (Preparatory Courses, Division III., of Continuation Class Code).

V. The larger school boards for themselves, and in other cases the Secondary Education Committees, should, in cooperation with the relative Central Institutions, establish at suitable centers within their districts classes for the further instruction of those who have received the aforesaid minimum of Supplementary Course Instruction (Division III. Classes).

VI. The organization of these classes should be based upon a careful survey of the occupations of the district, distinguishing between those which do and those which do not offer a prospect of employment suitable for adults.

VII. In so far as the subject-matter of these courses involves the treatment of principles of science or of art, the study of which may be carried to a higher stage, the classes should be definitely affiliated to the appropriate Central Institution<sup>1</sup> and the program of work definitely related to that of those institutions. In addition, every endeavor should be made to bring the whole work of these classes within the sphere of influence of the Central Institutions, so that all forms of technical work, even of the lowest grade, may benefit by the knowledge and experience of the best experts available.

VIII. As an important, if subsidiary, part of the program of work of such classes, arrangements should always be made for the instruction of the students in English, in the laws of health, and the duties of citizenship, while opportunity should be offered for suitable physical exercise.

IX. Each Board should for itself make a census of young persons between 14 and 18 in its district with a view to ascertaining the extent to which they are profiting by the opportunities offered, and to considering whether or not they should avail themselves of their powers under the Act to make byelaws requiring attendance at continuation classes in certain circumstances.

X. Before applying compulsion every effort should be made, by the provision of suitable instruction at convenient hours, by conferences with employers and associations of workmen and by cooperation with other

<sup>1</sup>Higher technical, art and commercial schools cooperating with the continuation schools.

agencies, to stimulate voluntary attendance. When compulsion is resorted to, it might be limited in the first instance to those who have not received the minimum of Supplementary Course instruction specified above before leaving the day school.

XI. The information as to young persons and their employments necessarily accumulated for the proper organization of continuation class work may be turned to useful account in another direction, viz., in facilitating the work of agencies established under the Act for aiding young people and their parents in the choice of employment. The establishment of such agencies, in industrial districts at all events, is a matter of the highest importance; and it is almost equally important that such agencies should be in close relationship to the public authority charged under the present Act with the duty of making suitable provision of continuation classes for the further instruction of young persons above the age of 14 years with reference to the crafts and industries practiced in the district.

#### CONTINUATION SCHOOLS IN EDINBURGH.

Edinburgh is carrying out this plan of operation in a most thorough way. I shall attempt a description, using freely the reports published by the Edinburgh school authorities. The following is a general outline of the scheme of construction proposed for the session of 1910-11 in accordance with the new Code of regulations for the continuation classes. The subjects of instruction as outlined by the Scottish Education Department are grouped as follows:

##### Division I. Classes for the Completion of General Elementary Education.

English and Arithmetic, and one or more of the following: The Empire, Civics, The Laws of Health, Drawing, Woodwork, Common Commercial Documents, Needlework, Cookery, Laundry Work, Dress-Making, Millinery.

These classes are intended for pupils who have not had a full course of elementary instruction in the day school; or, who, by reason of not proceeding directly to the continuation classes on leaving school, find it necessary to review the elementary subjects before entering upon one of the courses for specialized instruction. Pupils under the age of 14 years are not admitted unless they have been exempted from attendance at the



day school. The work of these classes corresponds generally with that of the Supplementary Courses recommended by Sir John Struthers, which are given in the last two years of the elementary school.

Division II. Classes for Specialized Instruction. This division shall comprehend classes for the elementary instruction of pupils in special subjects—especially such as may be of use to pupils who are engaged in or preparing for any particular trade, occupation, or profession.

Pupils may be admitted to classes under Division II. at the discretion of Managers, provided that due regard is had to the previous instruction of the pupils in elementary subjects, and to their fitness to profit by the instruction given.

The following classes of pupils will be eligible to enter Division II:

- I. Pupils over 16 years of age at the date of joining the class.
- II. Pupils under 16 years of age who—
  - (a) Have been one year in an approved Supplementary Course; or
  - (b) Have attended at least thirty meetings of a course conducted under Division I., and obtained a certificate of satisfactory proficiency from the managers of such course; or
  - (c) Have been in attendance for at least one year as duly qualified pupils at a Higher Grade School or Department, or at a Secondary School.

#### SUBJECTS OF INSTRUCTION.

The subjects of instruction may be classified under the following heads:

- (A.) *English Subjects*—English, geography, history, the life and duties of the citizen.
- (B.) *Languages*—The study of any language, ancient or modern, approved by the Department.
- (C.) *Commercial Subjects*—Commercial arithmetic, handwriting, bookkeeping, shorthand, commercial correspondence, business procedure, commercial geography. The study of any language (including English) with a direct view to its use in business.
- (D.) *Art*—Drawing and modeling; elementary design.
- (E.) *Mathematics*—Elementary geometry, algebra, mensuration, dynamics.
- (F.) *Science*—The elementary study, theoretical or practical, of physical or natural science, or any branch thereof.

(G.) *Applied Mathematics and Science—*

- (a) *General*—Practical mathematics, including technical arithmetic and the use of mathematical instruments and tables; mechanical drawing.
- (b) *Special*—The application of mathematics and science to specific industries. Machine construction, building construction, naval architecture, electrical industries, mining, navigation, architecture, horticulture, or any other industry the scientific principles underlying which admit of systematic exposition.

Where the nature of the subject requires it, previous or concurrent study of (G) (a), or of the related branch of (E) or of (F), will be made a condition of taking any subject under (G) (b).

- (H.) *Handwork*—Elementary instruction in the use of tools—woodwork, ironwork—with concurrent instruction in drawing to scale, and the practice of such occupations as needlework, cookery, laundry work, dairy work, with accompanying explanations of processes.
- (I.) (a) Ambulance work (practice and theory).  
(b) Physical exercises.

The class in each subject or group of related subjects attended by the same pupils must meet not less than one day a week for such length of session as may be approved by the Department. When a session of less than twenty weeks is proposed a statement of the circumstances in which a shorter session is thought desirable should be given. Each meeting shall be of not less than one hour's duration or, in the case of subjects of practical instruction,  $1\frac{1}{2}$  hours.

By practical instruction is meant instruction under heads (F), (G), or (H) which proceeds mainly by means of actual experimental work on the part of the pupils themselves in properly equipped laboratories or workshops, supplemented by the necessary explanations and demonstrations. Supplementary theoretical instruction may be reckoned as part of the practical course, but to an extent not exceeding one-half of the time occupied by the pupils in practical work.

Division III. Courses for Specialized Instruction. This division shall comprehend organized courses of systematic instruction arranged with a view to fitting students for the intelligent practice of particular crafts, industries, or occupations. Courses to be recognized under this division must, as a rule, extend over at least three years, and must provide for such minimum of instruction in each year as may in each particular case be proposed by Managers and approved by the Depart-

ment. For the benefit of pupils who intend to take such a course but are not yet qualified, Managers may form a class preparatory to and distinctly related to the Division III. course with a curriculum to be approved by the Department as of sufficient breadth.

Courses may be instituted under Division III. to provide technical instruction appropriate to any crafts, industries, or occupations, approved by the Department as suitable in the particular circumstances.

Such courses may be classified under the following heads:

- (a) Commercial and literary courses.
- (b) Art and art crafts.
- (c) Engineering—civil, mechanical, electrical, mining, sanitary, etc.
- (d) Naval architecture.
- (e) Navigation.
- (f) Architecture.
- (g) Building and allied trades.
- (h) Textile industries.
- (i) Chemical industries.
- (j) Printing processes.
- (k) Women's industries.
- (l) Agriculture and rural industries.
- (m) Other suitable industries or occupations not included under any of the above heads.

Students who fulfil the requirements of Division II. will be eligible for admission to the Preparatory class.

Students who have passed successfully thru the Preparatory class or any year of a course in Division III. will be eligible for admission to the succeeding year of that course.

Students (a) over 17 years of age who are certified by His Majesty's Inspector to be qualified to benefit by the instruction; or (b) who have been more than one year in an approved Supplementary Course and have gained a Certificate of Merit; or (c) who have been two years in an approved Intermediate Course; will be eligible for admission to the first year of a Division III. course.

Students who have gained an Intermediate Certificate of the Scotch Education Department will be eligible for admission to the second year of a Division III. course.

Students who have had a Post-Intermediate course in a Secondary School, and have gained a Technical or Commercial, or Leaving Cer-



tificate, may be admitted to a third year of any Division III. course to which their certificates are relative.

Students producing satisfactory evidence of other qualifications which may be accepted by the Department as equivalent to any of those specified in the five preceding Articles will be eligible for admission to the year of the Division III. course corresponding to their qualification.

Classes in Division III. must meet not less than twice a week for at least twenty weeks, each meeting to be of not less than one hour's duration, or in the case of subjects of practical instruction, one and one-half hours.

Division IV. Auxiliary Classes. This division shall comprehend classes for instruction in physical exercises, military drill, vocal music, woodcarving, fancy needlework, elocution (if taken in connection with an English course), or such other subjects as may be recognized by the Department as suitable for grants under this division.

These classes shall be open to all pupils who are free from the obligation to attend school as required by the Education Act, but it shall be a condition of grant that the Department shall be satisfied that Managers are using all reasonable endeavor to encourage the attendance of the pupils at classes of other divisions also.

#### CLASSES IN THE SCHOOLS AND TEACHERS.

Continuation classes are carried on in Edinburgh in 25 schools: 6 of the schools are set apart for young women and girls; 6 for young men and boys; 10 for both sexes; and 3 for adults over 20 years of age. Classes for the completion of general elementary education are conducted in 17 of the schools. Provision is made for one or more courses of specialized instruction in each school. Courses in domestic art are organized in all schools to which girls and young women are admitted, excepting the two commercial institutes.

English courses are taught in.....11 schools

Commercial courses in.....22 schools

Technical courses in.....14 schools

Art courses in.....6 schools

Domestic courses in.....17 schools

There are six schools in which instruction in physical exercise is given. Swimming and life-saving are taught in the four school baths belonging to the Board.

Vocal music is taught in.....10 schools

Wood carving in.....3 schools

Elocution in.....3 schools

The total number of classes in the continuation schools for the year terminating 1911 is as follows:

Division I. Classes for the completion of general elementary education.	35
Literary English classes.....	11
Commercial English classes.....	306
Technical English classes.....	74
Art classes.....	20
Domestic classes.....	288
Recreative classes.....	87
Total	821

There are 421 teachers employed in the continuation schools; 122 are trained, certificated teachers. The Board has arranged courses of lectures on the art of teaching, illustrated by practical demonstration lessons for the remaining 299 teachers.

The continuation school session extends over a period of 26 weeks, beginning about the end of September and closing about the end of March. During the last four years, the school has had a summer session of 12 weeks, beginning in April and terminating in June.

In all the schools, except those for adults, the fee is five shillings for the session, which is returned to each pupil who makes 80% of attendance and is given a satisfactory report from the head-master as to conduct and progress. Pupils who enrol for one night's attendance a week must make 90% of attendance in order to obtain the return of their fee. The classes in physical exercises are open free to all pupils of the Board's continuation classes, and to others on payment of a fee of five shillings which is returned at the close of the sessions to those who make 90% of the attendance possible for the whole session. Prizes are given for attendance and progress.

#### COORDINATION WITH CENTRAL INSTITUTIONS.

Reference has been made to Central Institutions which cooperate with the continuation schools. This includes the Heriot Watt College and the Edinburgh College of Art. The general principle of the scheme is that the elementary instruction in English, commercial, technical, and art subjects should be given in the continuation schools; and that students who have successfully completed a two or three years' course, as the case may be, should be granted a certificate based upon the results of class work and class examinations, as well as on attendance qualifying

them for admission to the advanced or specialized classes in the corresponding department of the Heriot Watt College or Edinburgh College of Art. The scheme for coordination, so far as technical work is concerned, is a success, but in art and commercial subjects the results have not been quite so satisfactory.

#### RECENT DEVELOPMENTS.

Among the important steps recently taken may be mentioned the Educational Census made by the Board in the summer of 1910, with a view to ascertaining the extent to which young persons between 14 and 18 are taking advantage of the continuation classes, and with a view to studying the groups of occupations followed by them. The formation of Advisory Committees to offer suggestions as to the courses of instruction and the equipment required for the various classes should be referred to as showing the intention of the Board to direct continuation class instruction to profitable and practical ends.

During the last two years considerable progress has been made in the provision of suitable instruction with reference to the crafts and industries practiced in the district. Special classes have been organized for plumbers, brass-finishers, metalworkers, leather-workers, tailors, plasterers, upholsterers, French-polishers, chemists, and for the higher rates of speed in shorthand, in addition to the classes which existed previous to 1909 for mechanical and electrical engineers, masons, carpenters, cabinet-makers, bakers, confectioners, printers, art craftsmen, for those engaged in commercial occupations, and for domestic training.

In connection with the new school at Tynecastle a range of 18 workshops has been erected where proper facilities will be provided for the instruction of plumbers, tinsmiths, engineers, pattern-makers, brass-finishers, moulders, cabinet-makers, tailors, upholsterers and plasterers. In the construction of the workshops the strictest economy has been observed. In order to prevent the possibility of over-lapping with the Heriot Watt College and the Edinburgh College of Art, and the consequent waste of public money, the Board have had the advice and guidance of the practical experts of these Institutions and also of some of the practical men on the Advisory Council of the Educational Information and Employment Bureau in drawing up the schemes of work and in fitting up the workshops.



## QUESTIONS FOR FUTURE CONSIDERATION.

Among the questions which now claim the attention of the Board the following are worthy of note, viz:

- (1) The best means of reaching the 7,000 young persons in the city at present receiving no instruction.
- (2) The provision of more suitable classroom and workshop accommodation for adolescents.
- (3) The prevention of overlapping and waste by judicious schemes of coordination with the Central Institutions.
- (4) Increased attention to the teaching of citizenship and physical exercises.
- (5) The training of practical experts in the art of teaching.
- (6) Further cooperation with employers with a view to the institution of day continuation classes.

## EDUCATIONAL INFORMATION AND EMPLOYMENT BUREAU.

In September, 1909, the Board opened an Educational Information and Employment Bureau in their offices under the direction of the Organizer of continuation classes. Since that time almost 2,500 applications for advice regarding further educational courses and suitable occupations have been dealt with. Over 1,500 pupils have made personal application to the Bureau for employment, and almost 1,200 of them have been placed in occupations for which they appear suited by natural bent and educational equipment. The services of the Bureau have been utilized by almost 600 individual employers.

The operations of the Bureau appear to have exercised a strengthening effect on the link between the day school and the continuation school classes, as is shown by the large percentage of leaving pupils who now proceed directly to the continuation classes. In order to bring home to parents the great importance of selecting suitable occupations for their children and of allowing little or no break between the day school and the continuation classes, the members of the Board now address in February of each year, meetings of leaving pupils and their parents.

## COOPERATION WITH LABOR EXCHANGE.

In January, 1910, the Board of Trade opened a Labor Exchange in Edinburgh. As the Juvenile Department of the Exchange and the Board's Bureau were performing related duties, so far as the employ-

ment of young persons was concerned, it was felt that in the interest of economy and effective industrial organization a scheme of cooperation was very desirable. As the result of negotiations between the School Board and the Board of Trade, an arrangement has been made whereby the work of both departments is carried on jointly in the present office of the School Board. All young persons between 14 and 17 years of age are dealt with there.

The Labor Exchange has provided an officer to carry on the work of registration of applicants for employment and of vacancies intimated by employers. The School Board's officer continues to do the work of advising boys and girls when leaving school as to the pursuits for which they are suited and as to the opportunities which exist in the various occupations. It is also his duty as organizer of continuation classes to keep the system of further education in real touch with the industrial needs of the locality, and to supply information regarding the educational courses suitable for groups of allied trades.

#### ADVISORY COUNCIL—SECTIONAL COMMITTEES

The Bureau is under the charge of a standing committee of the Board consisting of five members. Associated with the committee there is an Advisory Council comprising representatives of public bodies, trade associations, employers, and educational experts. It is the duty of the Advisory Council to give advice to the Board on all matters connected with the education required for the various trades and occupations in the city and on the conditions of employment. In order that the attention of each member may be concentrated on the industry with which he or she is connected, 18 Sectional Committees have been formed to deal with the following subjects, viz:

- |                           |                               |
|---------------------------|-------------------------------|
| 1. Printing.              | 10. Upholstery.               |
| 2. Engineering.           | 11. French Polishing.         |
| 3. Brassfinishers' Work.  | 12. Baking and Confectionery. |
| 4. Tinsmiths' Work.       | 13. Tailors' Work.            |
| 5. Molding.               | 14. Plasterers' Work.         |
| 6. Building Construction. | 15. Art.                      |
| 7. Plumbers' Work.        | 16. English.                  |
| 8. Carpentry and Joinery. | 17. Commercial Subjects.      |
| 9. Cabinet-Making.        | 18. Domestic Subjects.        |

The duties of these Sectional Committees are as follows:

- (a) To visit the particular classes which they are chosen to deal with.
- (b) To offer suggestions to the Board as to the equipment and schemes of work of those classes, and as to further means calculated to increase the interest on the part of the workers concerned.
- (c) To make an annual report to the Board.

The work of the Sectional Committees has been carried on with much earnestness, and valuable reports have been furnished to the Board. In this way the workshop, the counting-room, and the business establishment are brought into close contact with the school, and a definite practical bent is given to the instruction.

#### EDUCATIONAL CENSUS.

In the summer of 1910, an educational census was taken of the children and young persons in the city of Edinburgh with a view to determining two main points: (a) the actual number of young persons for whom continuation class arrangements should be made; (b) the nature of the industries of the various districts in which these young persons are at present employed. The census was confined to houses of a rental of £130 per annum and less. It was ascertained that on June 1st, 1910, the number of young persons between 14 and 18 years of age was 14,988, and that of these 3,366 or 22.4% were attending continuation classes or other institutions for further study not including day schools; 7,674 or 51% were not taking advantage of any facilities for further study.

Calculated on the basis of the 1901 Census the total number of young persons between 14 and 17 in Edinburgh in 1910 may be stated to be 19,094, the number receiving instruction during the day 5,021, and the number attending continuation classes, central institutions, and private schools 5,758. Apparently then there were on June 1st, 1910, in round numbers, 8,000 or 43.5% of the total population between 14 and 17 who were not in attendance at either day or evening classes. Almost 1,000 of these have since been enrolled in the continuation schools.

There were 43 occupations in the city in which more than 50 workers between the ages of 14 and 18 are engaged. These important groups of industries will be carefully surveyed with a view to showing



to what extent provision has already been made in the continuation schools for giving instruction in the subjects which are directly related to them, and what further organization is required to meet the necessities of occupations still unprovided for. Valuable assistance in this connection will be given by the Sectional Committees of the Advisory Council.

When the scheme of cooperation between the Board and the Labor Exchange has been fully developed there will be issued to pupils at the close of their day-school career leaflets and pamphlets giving information about the conditions of employment, the rates of wages in the district, the general nature of the opportunities and prospects in each industry, the qualifications most required on the part of the learners or apprentices, and the technical and commercial instruction required for each occupation. One such leaflet concerning employment for girls has been published.

One is impressed by the thoroughness with which the Scotch have undertaken the work of vocational education. While the Germans have accomplished more on account of larger experience and more favorable conditions; the Scotch in Edinburgh have developed a plan that compares favorably with that of most German cities.

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